

REMARKS

Presently in the case is independent claim 16 (from which depend claims 17, 4, and 6-8); independent claim 10 (from which depend claims 11, 12 and 18); and independent claim 13 (from which depends claim 19).

Independent claim 16 is an apparatus claim directed toward an auger mixer for mixing a concrete mix. The claim requires a stationary seal including a stationary contact surface and a resilient stationary member and also includes a rotating seal including a rotating contact surface and a resilient rotating member. The claim requires that the resilient stationary member and the resilient rotating member each being deformed and biasing the stationary seal and the rotating seal toward one another so that the stationary contact surface of the stationary member frictionally engages the rotating contact surface of the rotating member. The claim further requires that "the stationary contact surface and the rotating contact surface forming a seal there between during rotation of the rotating contact surface relative to the stationary contact surface to prevent the concrete mix from exiting the mixing chamber and moving towards the bearing assembly."

The Examiner has cited the mixing and conditioning machine of Holley ('170) in combination with the metal ring seal shown in the Bedford reference ('069). The Examiner concedes that the Holley reference fails to show the specific seal required by the resilient stationary member and the resilient rotating member. However, the Examiner cites the Bedford reference to show a first fixed (70) and rotating (72) members made of resilient material which deform the second fixed (66) and rotating (68) metal members together.

The Examiner has erroneously read the Bedford reference. Bedford does not disclose a stationary seal and a rotating seal as required by claim 16. Instead, Bedford shows seal members

66, 68 which rotate in unison with one another and which do not frictionally engage one another. The stationary contact surface and the rotating contact surface required by claim 16 form a seal there between "during rotation of the rotating contact surface relative to the stationary contact surface to prevent the concrete mix from exiting the mixing chamber and moving toward the bearing assembly." Since the Bedford reference does not show a stationary member and a rotating member that frictionally engage one another during rotation of the auger, it fails to show the structure required by claim 16.

Furthermore, the structure required by claim 16 would not be obvious to one having ordinary skill in the art under the meaning of 35 U.S.C. § 103. Bedford explains at column 2, lines 7-11 that the "first and second split metal retaining rings 28, 30 which secure the roller shell 18 in a fixed position with respect to the bushings 14, 16 and the shaft 12." Thus, Bedford teaches that the member 18 and the seals 24, 26 all rotate in unison and the seals 24, 26 do not include a stationary seal and a rotating seal as required by claim 16. Furthermore, it is inconceivable that one skilled in the art would adapt the structure of the Bedford reference to the stationary and rotating seals of the Holley reference. How one skilled in the art could change the structure of the Bedford reference to include one rotating seal and one stationary seal defies the imagination of one skilled in the art.

Accordingly, claim 16 defines the combination which is patentable in view of the cited art.

Claim 17 depends from claim 16 and requires that the stationary and rotating contact surfaces each comprise an outer edge of a cone shaped surface, the cone shaped surface of the stationary seal facing the cone shaped surface of the rotating seal. There is no cone shaped

surface on the seals shown in the Bedford reference, and therefore claim 17 defines subject matter which is further patentable over the cited art.

Claims 4, 6 and 7 depend from claim 16 and are patentable for the reasons set forth as to that claim.

Claim 10 is an independent claim requiring a compressible plate between the steel plate and the first end wall. Claim 10 has been further amended to require that "the compressible plate be separate from the seal assembly."

The Examiner, in the rejection of claim 10 cited Tschopp ('247) as teaching placing a rubber compressible plate between the members of a mixer. The Examiner states that it would have been obvious to one of ordinary skill in the art to have placed a rubber compressible plate between the bearing plate and the wall of Holley to achieve the benefit of improved sealing explained at column 4, lines 10-41 of Tschopp.

As amended, claim 10 requires the compressible member to be separate from the seal assembly. In contrast, the Tschopp reference discloses a diaphragm 24 which forms a part of the seal assembly. The compressible member of claim 10 is entirely separate from the seal assembly and does not perform any sealing function whatsoever. Instead, the compressible member permits "flexing of the steel plate and the first end wall relative to one another so as to permit slight movement of the angular disposition of the shaft axis relative to the first end wall." This structure is neither shown nor suggested by the prior art, including the Tschopp reference. Accordingly, claim 10 defines subject matter which is patentable in view of the cited art.

Claims 11 and 12 depend from claim 10 and are patentable for the reasons set forth as to that claim.

In addition, claim 18 depends from claim 10 and requires the steel plate to be in facing engagement with the compressible plate. Clearly the diaphragm 24 is not in facing engagement with a plate whatsoever and accordingly, claim 18 further defines patentable subject matter over the Tschopp reference.

Both claims 10 and 18 provide a function which is not shown by the Tschopp reference, namely the flexing of the compressible plate and the steel plate relative to one another so as to permit slight movement of the angular disposition of the shaft axis relative to the first end wall. There is no such flexibility of movement in the Tschopp reference and accordingly, claims 10 and 12-18 are patentable in view of the cited art.

Claim 13 is a method claim for sealing a rotating auger shaft relative to the first end wall of a concrete auger mixer. The Examiner cited the Holley reference against original claim 13. However, claim 13 requires the step of "biasing the circular sealing surface of the stationary seal toward the circular sealing surface of the rotating seal." The claim further requires "rotating the rotating seal by rotating the auger mixer while at the same time maintaining the stationary seal against rotational movement whereby the circular sealing surface of the rotating seal rotates relative to, and bears against the circular sealing surface of the stationary seal."

The Bedford reference was cited to show the biasing of the two seal members 66, 68 together. However, the seal members 66, 68 rotate in unison with one another and are not a stationary seal and a rotating seal as required by claim 13. There is no step shown in claim 13 of rotating the rotating seal by rotating the auger mixer while at the same time maintaining the stationary seal against rotational movement whereby the circular sealing surface of the rotating seal rotates relative to and bears against the circular sealing surface of the stationary seal. Since

this feature is neither shown nor suggested by any of the references, it is believed that claim 13 defines a method which is patentable in view of the cited art.

Claim 19 depends from claim 13 and requires cone shaped surfaces facing one another on the stationary seal and the rotating seal. Furthermore, the circular sealing surfaces of the stationary and rotating seals are required to be at the outer edge of the cone shaped surface. There is no such structure shown in any of the references cited by the Examiner. There is no cone shaped surface shown in the Bedford reference and furthermore, the sealing members 66, 68 do not rotate relative to one another. The fact that the sealing members 66, 68 do not rotate against one another, it minimizes the need for the sealing surfaces 74 to be limited to the outer peripheral surface of the cone shaped surfaces as required by claim 19. Accordingly, claim 19 defines subject matter which is patentable over the cited art and should be allowed.

If a telephone interview would facilitate prosecution of the present application, Applicant invites the Examiner to telephone Applicant's Attorney of Record at the below-identified number.

No fees or extensions of time are believed to be due in connection with this amendment; however, consider this a request for any extension inadvertently omitted, and charge any additional fees to Deposit Account No. 26-0084.

Reconsideration and allowance is respectfully requested.

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